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Adam Lord,  
Director of Infrastructure Services  
American Imaging Management



## American Imaging Management Primes Its Web-based Services for Tremendous Growth with F5 Solutions

### Industry

Healthcare management

### Challenges

- Provide high web application availability, stability, and performance
- Gain flexible and granular control over website traffic
- Migrate the application to a new data center without impacting users
- Remove infrastructure barriers to business growth
- High traffic volumes

### Solution

- F5 BIG-IP Local Traffic Manager
- F5 BIG-IP Global Traffic Manager

### Benefits

- More stable and responsive user experience
- Zero downtime during application migration
- Lower infrastructure costs
- Easy administration and implementation
- Infrastructure positioned for business growth

### Overview

American Imaging Management (AIM) (<http://www.americanimaging.net>) is a leader in managing outpatient diagnostic imaging services through innovative solutions. Its *ProviderPortal*<sup>®</sup> website offers healthcare provider offices real-time, 24/7 access to preauthorization claims, eligibility information, and other services, and receives more than one million preauthorization requests annually.

As the company grew, AIM found that its IT infrastructure needed to evolve in order to keep pace with the company’s business needs. By implementing F5 BIG-IP<sup>®</sup> Local Traffic Manager<sup>™</sup> (LTM) and BIG-IP Global Traffic Manager<sup>™</sup> (GTM), AIM’s IT department freed up the company to continue its significant expansion by eliminating infrastructure concerns that threatened to limit core business growth.

### Challenges

AIM has experienced tremendous growth over the past 18 months and has significant growth prospects on the horizon. As demand for its web-based services increased, AIM faced several challenges with its existing IT infrastructure that had the potential to hinder the company’s ability to pursue its business objectives.

First, the load balancing system that was in place provided no visibility or control over the traffic that was coming into the *ProviderPortal* website. AIM’s IT department needed to find a solution that would enable them to provide high availability and performance for the site’s users in both ongoing application delivery scenarios as well in disaster recovery situations.

“The application is continuously evolving, and that requires my infrastructure group to have greater control and oversight into how those applications are being presented to our user base,” says Adam Lord, Director of Infrastructure Services at AIM. “It’s a fluid environment here, so the ability to dynamically control that traffic however we choose, in a fast and flexible way, is really critical.”

The old load balancing system also offered no way to “cleanly” pull users off a particular host if it went offline, leading to disruptions in the user experience. Lord explains that “it becomes a brand management issue when there are stability issues and active sessions are dropping.”

Additionally, during application release cycles AIM wanted to be able to host maintenance pages

outside its web environment to constructively inform users of temporary site unavailability. The previous environment did not offer that capability and AIM customers were simply left without site access or explanation.

Ultimately, one particular project brought the search for a new infrastructure to the forefront. To support the growth of the company's web-based services, AIM built a new primary processing facility and planned to migrate its customer application from the old data center. Faced with up to two days' outage to complete this process with the old infrastructure, AIM went looking for a way to redirect traffic from one geographic location to the other in a very controlled way in order to minimize the impact of the migration on users.

#### **Solution**

AIM considered various vendors but quickly narrowed the search to F5 because it was the only company that provides a full proxy and granular control over all of the traffic coming into the website. AIM implemented F5 BIG-IP LTM and BIG-IP GTM largely due to the ability they provide to precisely manipulate traffic using the F5 iRules™ scripting language.

"The ability to custom code functionalities into the appliances in a very short amount of time was extremely compelling, and that didn't exist with the other vendors," says Lord.

Lord's team deployed one pair of BIG-IP LTM 6400 appliances with the BIG-IP GTM module at the company's primary processing facility and another pair at its disaster recovery site.

BIG-IP GTM seamlessly directs all of the incoming Internet traffic to the appropriate data center according

to the policies AIM sets to ensure the highest possible stability and availability. BIG-IP LTM provides complete payload inspection and transformation capabilities, the ability to incorporate event-driven iRules, and session-aware switching to intelligently manage all of the internal and external application traffic coming into AIM's servers.

#### **Benefits**

By implementing BIG-IP LTM and BIG-IP GTM, AIM is providing a better user experience, using its IT resources more efficiently, and establishing a more mature infrastructure that will support the company's growth and business initiatives in the years to come.

#### **Improved user experience**

Deploying BIG-IP LTM immediately improved active session stability and AIM's customers noticed faster response times within the web application right away. During maintenance windows, the IT team now uses iRules to direct customers to a maintenance page. The stability and performance gains resulting from the new infrastructure have helped solidify AIM's complete, best-in-class service offering.

"The BIG-IP devices are full application proxies, so we really have the ability to inspect and manipulate the traffic at all layers, from layer 2 all the way up in the stack," Lord says. "Having that view helps us make sure we're managing that traffic appropriately."

#### **Migration with zero downtime**

To prepare for the migration of the customer application from the old data center to the new primary processing facility, AIM's IT team implemented BIG-IP GTM a week prior to the move in a process that was "absolutely seamless," according to Lord.

AIM completed the data center migration project with zero downtime.

"Our business is growing by leaps and bounds, and the migration was essential," Lord says. "To be able to move to a geographically separate data center with no impact to our user base was a huge value add for our business and represents a giant step in maturity for our infrastructure."

BIG-IP GTM is also a critical part of AIM's new disaster recovery processing facility, enabling AIM to control user access to the system in a flexible and fast way at a moment's notice.

#### **Resource savings**

AIM saw an immediate reduction in web server utilization after deploying BIG-IP LTM. "Just by introducing the BIG-IP LTM devices and the way they manage the traffic, we're realizing an increased capacity on our existing web farm without adding any other hosts," Lord explains. "That's a more efficient use of existing resources, and that's a lower infrastructure cost."

#### **Ease of use, unexpected benefits**

AIM's previous load-balancing environment was command-line driven without a friendly user interface, so network operations center (NOC) technicians were limited to monitoring and escalating issues. The ease of use of the F5 appliances means that the frontline NOC technicians are now able to help with remediation.

"The GUI interface is completely intuitive, so I can actually put some of the level one remediation activities into the hands of my network operations center, which helps bring any issues affecting the user base to a close that much faster," Lord explains. "That was unintended, but it's another nice value add for us."

**Stress-free implementation**

Both the BIG-IP LTM and BIG-IP GTM implementations went quickly and were completely transparent to AIM's user base.

"In migrating to BIG-IP LTM from our previous solution, the migration tools, along with the F5 professional services, made porting our existing load balancing configuration, along with all the associated SSL processing schemes, extremely easy," Lord says.

Lord's team also tapped into F5's DevCentral<sup>SM</sup> to get up and running quickly. "We didn't have the time to invest in a significant amount of training, so we relied heavily on the DevCentral forum to find iRules configurations and get feedback,"

Lord says. "Our team has been very successful in learning how to implement various functionalities within the tools just based on that forum."

**Positioned for growth**

"The ability to have a flexible and agile infrastructure that's not going to get in the way of the growth of our business is absolutely paramount," Lord notes. "By implementing these F5 solutions, we've positioned the infrastructure to allow the business to grow to virtually any size without having to worry about any bottlenecks from our Internet presence."

AIM has also purchased and plans to deploy F5 BIG-IP Application Security Manager<sup>TM</sup> (ASM) later

this year. BIG-IP ASM will enable Lord's team to apply specific security policies to ensure the protection of its membership data and comply with the highest information security standards in the healthcare industry.

As the company takes on new initiatives, whether it's ISO 27001 certification or auditing to meet stringent healthcare security regulations, its new infrastructure has positioned AIM to meet these business challenges head on. Lord remarks, "If we want to expand, it's very modularized, so we can plug in BIG-IP GTM, plug in BIG-IP ASM, and we can grow with the appliance instead of having to reinvest in additional hardware."

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